

## REMARKS

Claims 36 and 42-44 are cancelled. New claims 45-66 are added. Such new claims are supported by the originally-filed application by exemplary embodiments of Applicant's invention disclosed at, for example, Figs. 5-6. Claims 45-66 are pending in the application. Reconsideration of the application in view of the amendments and the remarks to follow is requested.

Claims 36 and 42-44 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Yang et al. (6,040,238) in view of Ilg et al. (6,130,145).

Independent claim 45 recites a silicon dioxide layer over and physically against a second layer and no silicon dioxide layer being over and physically against the upper surfaces of the conductively-doped diffusion regions, the silicon dioxide layer being formed by oxidizing an upper surface of the second layer during rapid thermal processing of the second layer. Ilg fails to teach rapid thermal annealing, and an electronic search verifies this assertion. Yang teaches that the "semiconductor substrate is annealed by rapid thermal annealing (RTA). **Thereafter, an oxide layer is deposited** overlying the silicide layer" (col. 2, lines 21-24) (emphasis added). That is, the silicon dioxide layer is formed **after** the rapid thermal annealing, and not formed by the rapid thermal annealing. Accordingly, the art of record fails to teach or suggest the **silicon dioxide layers formed by** oxidizing an upper surface of the second layer during **rapid thermal processing** of the second layer as positively recited in claim 45. Since the art

of record fails to teach or suggest a positively recited limitation of claim 45, claim 45 is allowable.

Claims 46-54 depend from independent claim 45, and therefore, are allowable for the reasons stated above with respect to the independent claim, as well as for their own recited features which are not shown or taught by the art of record.

For example, dependent claim 54 recites a silicon dioxide layer comprises a thickness less than half a thickness of a second layer (comprising silicide). Ilg does not teach a silicon dioxide layer. Yang teaches a hard mask 32 of silicon oxide has a thickness of between about 1000 and 2000 angstroms (col. 3, lines 43-45) wherein a tungsten silicide layer 18 has a thickness of between about 1000 and 1,500 angstroms (col. 3, lines 1-2). This teaching has the thickness of the silicon oxide 32 at greater than or equal to  $\frac{2}{3}$ rd the thickness of the tungsten silicide layer 18 ( $1,000 \div 1,500 = \frac{2}{3}$ ). Accordingly, the art of record, singularly or in any combination, fails to teach or suggest a silicon dioxide layer comprises a thickness less than half a thickness of a second layer as positively recited in claim 54. Since the art of record fails to teach or suggest a positively recited limitation of claim 54, claim 54 is allowable.

Regarding independent claim 55, such claim recites a second layer over and physically against a first layer, the second layer comprising silicide doped to a concentration of greater than  $1 \times 10^{18}$  atoms/cm<sup>3</sup> with conductive-enhancing dopant, the conductive-enhancing dopant for the second layer comprises a group III or a group V element **other than boron, phosphorous and arsenic**. The

originally-filed application supports such language at, for example, page 9, last paragraph. The Examiner correctly states that Yang fails to teach doping the silicide, and relies on the teachings of Ilg to supply the deficiency in teachings (pg. 2 of paper no. 25). However, Ilg teaches doping the silicide with phosphorus, arsenic or boron (col. 4, lns. 32-47), and fails to teach the conductive-enhancing dopant for the second layer comprises a group III or a group V element **other than boron, phosphorous and arsenic** as positively recited in claim 55. Accordingly, the art of record, singularly or in any combination, fails to teach or suggest a positively recited limitation of claim 55, and therefore, claim 55 is allowable.

Claims 56-60 depend from independent claim 55, and therefore, are allowable for the reasons discussed above with respect to the independent claim, as well as for their own recited features which are not shown or taught by the art of record.

Regarding independent claim 61, such claim recites an oxide layer over and physically against a second layer (silicide), the oxide layer comprising a thickness less than half a thickness of the second layer. Ilg does not teach an oxide layer. Yang teaches a hard mask 32 of silicon oxide has a thickness of between about 1000 and 2000 angstroms (col. 3, lines 43-45) wherein a tungsten silicide layer 18 has a thickness of between about 1000 and 1,500 angstroms (col. 3, lines 1-2). This teaching has the thickness of the silicon oxide 32 at greater than or equal to 2/3rd the thickness of the tungsten silicide layer 18 ( $1,000 \div 1,500 = 2/3$ ). Accordingly, the art of record, singularly or in any


combination, fails to teach or suggest a oxide layer comprising a thickness less than half a thickness of the second layer as positively recited in claim 61. Since the art of record, singularly or in any combination, fails to teach or suggest a positively recited limitation of claim 61, claim 61 is allowable.

Claims 62-66 depend from independent claim 61, and therefore, are allowable for the reasons discussed above with respect to the independent claim, as well as for their own recited features which are not shown or taught by the art of record.

This application is now believed to be in immediate condition for allowance, and action to that end is respectfully requested. If the Examiner's next anticipated action is to be anything other than a Notice of Allowance, the undersigned respectfully requests a telephone interview prior to issuance of any such subsequent action.

Respectfully submitted,

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By:   
D. Brent Kenady  
Reg. No. 40,045